

CONSTRUCTION PERMIT SUMMARY REPORT

Company Name: Tennessee Dept. of General Services
Tennessee Bureau of Investigation File Number: 47-0021 EPS Initials: TFR

Permit Number(s): 970451P Source Number(s): 01

Application Received (date): June 19, 2015 Application Complete (date): June 19, 2015

Air Quality Analysis Performed? Yes ☐ No ☒

This is an existing internal combustion diesel-fired engine (1490 hp) used for an emergency generator. This emergency engine is subject to NSPS, **Subpart IIII**, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. Additionally, the engine will meet the engine MACT (40 CFR 63 Subpart ZZZZ) by meeting the NSPS requirements in Subpart IIII. This is an area source of hazardous air pollutants, and is not a major source for New Source Review (PSD). The expected emissions from this source are products of combustion of fuel oil. Pollution control equipment is not proposed for this source.

The engine is a stationary, compression ignition with the following characteristics: greater than 50 HP; less than 3,000 HP; less than 10 L displacement per cylinder; model year 2007 or later; and designated for emergency purposes.

Rules Analysis

Title V ☐ Cond. Major ☐ Minor ☒ Source category listed in 1200-03-09-.01(4)(b)1.(i)? Yes ☐ No ☒

Reason for PSD:	New source above ____ TPY	<input type="checkbox"/>	Sig. increase in ____ emissions	<input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Applicable NSPS:	40 CFR Part 60, Subpart <u>4I</u>	<input checked="" type="checkbox"/>	State Rule 1200-03-16-.	<input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Applicable NESHAP:	40 CFR Part 61, Subpart ____	<input type="checkbox"/>	State Rule 1200-03-11-.	<input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Applicable NESHAP:	40 CFR Part 63, Subpart <u>4Z</u>	<input checked="" type="checkbox"/>	State Rule 1200-03-31-.	<input type="checkbox"/>	N/A <input checked="" type="checkbox"/>

Other Applicable State Rules

TSP Emissions:	1200-03- <u>09</u> -. <u>03(8)</u>	<input checked="" type="checkbox"/>	N/A <input type="checkbox"/>	NO _x Emissions:	1200-03- <u>09</u> -. <u>03(8)</u>	<input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
SO ₂ Emissions:	1200-03-____ -. ____	<input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	____ Emissions:	1200-03-____ -. ____	<input type="checkbox"/>	N/A <input type="checkbox"/>
CO Emissions:	1200-03- <u>09</u> -. <u>03(8)</u>	<input checked="" type="checkbox"/>	N/A <input type="checkbox"/>	____ Emissions:	1200-03-____ -. ____	<input type="checkbox"/>	N/A <input type="checkbox"/>
VOC Emissions:	1200-03-____ -. ____	<input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	____ Emissions:	1200-03-____ -. ____	<input type="checkbox"/>	N/A <input type="checkbox"/>

Visible Emissions from Source 01 not to exceed 20 % opacity per Method 9 (Rule 1200-03-05 -. 03(6))
(Rule 1200-03-05 -. 01(1))

Insignificant/Exempt Sources

The facility has three (3) natural gas-fired boilers with two (2) having a rated heat input capacity of 2.80 MMBtu/hr each, while the third one is rated at 1.44 MMBtu/hr. These boilers qualify as insignificant sources as defined in TAPCR 1200-03-09-.04(2)(a)(3).

The boilers are not subject to 40 CFR 63, Subpart 6J (NESHAP: For Industrial, Commercial, And Institutional Boilers Area Sources) per 40 CFR §63.11195(e), because they meet the definition of gas-fired boilers as outlined in section 40 CFR §63.11237 of this Subpart.

Emission Summary

Permit Number: 970451P

Source Status: New ☒ Modification ☐ Expansion ☐ Relocation ☐ **Permit Status:** New ☒ Renewal ☐

PSD ☐ NSPS ☒ NESHAPs ☒ **Previous Permit Number:** Construction N/A Operating N/A

	Pounds/Hour			Tons/Year				Date of Data	*	Applicable Standard
	Actual	Potential	Allowable**	Actual	Potential	Allowable	Net Change			
PM	≤ allowable		0.44	≤ allowable	0.11	0.11			1	40 CFR §60.4205(b)
SO ₂		Neg.	--		Neg.	--			2	1200-03-14-.03(5)
CO	≤ allowable		7.72	≤ allowable	1.93	1.93			1	40 CFR §60.4205(b)
VOC***	≤ allowable		Included with NO _x	≤ allowable		Included with NO _x			1	40 CFR §60.4205(b)
NO _x ***	≤ allowable		14.11	≤ allowable	3.53	3.53			1	40 CFR §60.4205(b)
HAPs					Neg.	--			3	
CO ₂ e					404.59	--			5	40 CFR 98

The SO₂ emissions were calculated using 15 ppm sulfur content of the fuel (NSPS requirement), assuming all available sulfur is converted to SO₂, and shown to be negligible.

HAPs emissions were calculated from AP-42, Table 3.3-2, and shown to be negligible.

CO₂e emissions were calculated using the emission factors in 40 CFR 98, Tables C-1 and C-2.

The ton per year emissions were calculated at 500 hours of operation / year based on the guidance found in the Seitz memo regarding the PTE determination for emergency engines. Allowable emissions for fee purposes are equal to the potential emissions.

* Source of data codes are found on the back of the APC 100.

** The allowable emission limits from 40 CFR part 60 Subpart IIII are in units of grams/kilowatt-hour. Each standard was reduced to lb/hr using the engine power output, in kilowatts, and a conversion factor of 453.592 gram per pound.

*** The applicable standard in §60.4205(b) & §89.112, Table 1 is in terms of NO_x + NMHC; therefore, the allowable VOC emissions are accounted for in NO_x

PERMITTING ENGINEER: TFR

DATE: October 2, 2015